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ABSTRACT

A study investigated the perceived source credibility of organizations that produce health messages. Manipulated versions of a health advertisement were generated to represent three types of organizational sources: a nonprofit source, a for-profit source, and a combination of for-profit and nonprofit sources. The advertisements were then produced as print, radio, and television messages. Magnitude estimation scales measured source credibility and message acceptance, while a questionnaire measured the behavioral intention of the 264 subjects. The results showed that the nonprofit source and the combination source were perceived as having significantly higher credibility than the for-profit source. The print version of the message also was perceived as more credible than the broadcast version of the advertisement. Though no correlation was found between source credibility and message acceptance, a significant correlation was found between source credibility and behavioral intentions, suggesting that a subject's stated behavioral intentions seemed to be affected by the credibility of the source. (References and tables of data are appended.) (Author/SRT)

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Health Advertising: The Credibility of Organizational Sources*

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Health Advertising: The Credibility of Organizational Sources

ABSTRACT

The source credibility of individuals has been studied extensively. However, little research has been conducted on the source credibility of organizations as sources of messages.

The present study investigated the perceived source credibility of organizations that produce health messages. Manipulated versions of a health advertisement were produced to represent three types of organizational sources: a nonprofit source, a profit source, and a combination of profit and nonprofit sources. The advertisements also were produced in three media forms (print, radio, and television). Magnitude estimation scales were developed to measure source credibility and message acceptance. Subjects also responded to a set of behavioral intention questions. Two hundred and sixty four non-college students participated in the experiment. The majority of the hypotheses were supported.

The results show that a nonprofit source and the combination source were perceived as having significantly higher credibility than the profit source. The print version of the message also was perceived as more credible than the broadcast versions of the advertisement. No correlation was found between source credibility and message acceptance suggesting that dissociation was a factor in subject's perceptions due to the importance of the health message. However, a significant correlation was found between source credibility and behavioral intentions, indicating that a subject's stated behavioral intentions seem to be affected by the credibility of the source.

This investigation was supported in part by the National Cancer Institute, National Institutes of Health.

NCI's interest in the research stems from a recent advertising campaign linking NCI (nonprofit source) with Kellogg Company (profit source). The last section of this paper discusses the practical implications of these results to NCI and other organizations that advertise about health.

INTRODUCTION

Source credibility has been studied extensively as it applies to the perceptions of the credibility of individuals as sources of messages. However, little research has been conducted on the source credibility of organizations as sources of messages, especially health messages. Health organizations both public and private are putting more emphasis on behavioral and life style factors in disease prevention. Therefore, it is important to conduct scientific research into the credibility of organizations that produce health messages and, further, the effect of this credibility on a subject's acceptance of the message and their behavioral intentions.

The purpose of this empirical study was to investigate the source credibility of organizations that advertise about health issues. The investigation sought to determine if differences exist in the credibility of an organization when it is perceived as having something to gain from the advertising (i.e., profit-making) as opposed to a nonprofit organizational source. A second objective of the study was to measure the perceived credibility of a combination of profit and nonprofit organization sources in a single health advertisement.

This investigation was financially supported in part by the National Cancer Institute (NCI). The focus of this study was particularly relevant to the Institute because of their involvement in a recent Kellogg Company advertising campaign on nutrition and cancer. Kellogg Company recently has been advertising the benefits of their All-Bran cereal product's main

ingredient--fiber. In their advertisements, Kelloggs' states that the National Cancer Institute has indicated that fiber has a role in reducing some kinds of cancer, therefore, "eat All-Bran." Other food manufacturers have approached NCI about using its name to lend credibility to their advertisements. However, NCI is concerned about the unknown effect of this collaboration on NCI's already high credibility. Will the advertisements cause NCI's credibility to drop? Kelloggs' to rise? Both drop? Both rise? This study is designed to provide insight into these questions and others.

LITERATURE REVIEW

Source Credibility and Message Acceptance

The focus of this study is based on the general hypothesis put forth by Hovland, Janis, and Kelley (1953) that "when a person is perceived as having a definite intention to persuade others, the likelihood is increased that he will be perceived as having something to gain and, hence, as less worthy of trust" (p. 23).

Intention as a component of trustworthiness has been studied by many researchers but referred to by many names--lack of vested interest (Kelman, 1972), suspiciousness of persuasive intent (McGuire, 1969), bias (Chu, 1967), impartiality (Roberts & Leifer, 1975), and unselfishness of appeal (Walster, Aronson, & Abrahams, 1966).

Despite this variation in labels, the findings are consistent. The more impartial the source is perceived to be, the greater its ascribed credibility (Roberts & Leifer, 1975; Walster, Aronson, & Abrahams, 1966). Further, the persuasiveness

of the message is also affected by the source's perceived intent (Chu, 1967; Freimuth, 1985; Hovland & Mandell, 1952; McGuire, 1969; Maccoby, 1974; Walster & Festinger, 1962). According to Chu (1967), "the persuasive effects of a communication are an inverse function of the perception of bias by an audience" (p. 248).

However, in their work on communication and persuasion, Hovland, Janis, and Kelley (1953) coined the term "dissociation" to describe a tendency, on the part of the subject to "dissociate the source from the content" of the message (p. 41). Dissociation in source credibility research evolves from "attitudes and cognitive organization" research (Heider, 1946) in that under conditions where a discrepancy exists between a person's attitude toward the source and their attitude toward the message, the person seeks to resolve this unbalanced state. According to Hovland, Janis, and Kelley, in this instance, the person would decide to dissociate the source from the message.

Dissociation functions to reduce or eliminate the direct influence of the source on the acceptance of the message content. To the extent that the "recipient is able to dissociate source and message, the acceptance of the message will be independent of the source" (Hovland, Janis, & Kelley, 1953, p. 42). Therefore, if the health message is very important to the subject (i.e., an advertisement for a new high blood pressure drug to a hypertensive), the subject will be able to put aside his/her perception of the credibility of the source and accept or reject the content based on the message's own characteristics (Hovland,

Janis, & Kelley, 1953; McGarry & Hendrick, 1974).

From a review of the literature on source credibility, message acceptance, and dissociation, the following four hypotheses were advanced:

H1: A nonprofit source of health messages will be perceived as more credible than a profit source of health messages.

H2: The perceived credibility of a combination of profit and nonprofit sources will be less than the perceived credibility of a nonprofit source.

H3: The perceived credibility of a combination of profit and nonprofit sources will be greater than the perceived credibility of a profit source.

H4: Because subjects will dissociate source from message, no significant correlation will be found between source credibility and message acceptance.

Source Credibility and Behavioral Intention

Source credibility also has been studied as it relates to behavioral intentions. However, little evidence exists in support of the assumption of a one-on-one relationship between high source credibility and positive behavioral intentions (Fishbein & Ajzen, 1975).

Intention to perform a behavior is an intermediate determinant between a person's attitude toward the behavior and his/her actual performance of that behavior. However, Ajzen and Fishbein (1980) caution that a measure of intention will not always be an "accurate predictor of behavior" (p. 42). In

reality, a number of factors influence the relationship between attitude and intention to perform.

Fishbein and Ajzen (1975) suggest that a person's intention to perform a certain behavior is a function of two basic determinants: attitudinal and normative components. Attitudinal determinants would be the person's attitude toward the behavior and performing the behavior. Normative determinants are a person's belief that his/her significant others would support or reject the performance of the behavior.

From a review of the research on source credibility and its effect on behavioral intentions, the following hypothesis was investigated in this study.

H5: The higher the perception of source credibility, the greater the subject's reported probability of behavior change.

Credibility and Medium

This study also investigated the effect of the medium of a health message on source credibility and message acceptance. Medium is important to a study of source credibility because, as Rogers (1983) points out, "it is often difficult for individuals to distinguish between the source of a message and the channel that carries the message" (p. 197). Research has been conducted to identify differences in persuasive effects of the three media: print, radio, and television (Klapper, 1960; McGuire, 1981; U.S. Department of Health and Human Services, 1983). The findings generally show that print is more effective with complex messages, and radio and television are more effective when a message is

simple.

However, little research into the direct effect of medium on source credibility or message acceptance was discovered. In a review of mass-mediated information campaigns, Atkin (1981) notes "television is generally the most influential medium in this country, followed by newspapers, radio, and magazines" (p. 277). Wade and Schramm (1969), on the other hand, report that print is more likely than television to be used as a source of knowledge about health by the public. In a recent review of persuasion studies, McGuire (1985) notes that television is regarded as more believable for people, but information and attitudes are influenced more by the print medium. Green, Kreuter, Deeds, and Partridge (1980) report that newspapers are "believed to inspire greater trust than such nonprint media as television or radio" (p. 93).

In the wake of such diverse findings, Petty and Cacioppo (1981) suggest that "no one form of [media] transmission is 'best,' but rather the most effective channel depends upon a variety of factors. These include the audience one wishes to reach; the interest value, comprehensibility, and personal relevance of the message; and the characteristics of the source [emphasis added]" (p. 86).

Because the literature did not assist in predicting the direction of the effect of medium on source credibility, the null hypothesis was advanced:

H6: Manipulating the medium will not affect the perceived credibility of a source of health messages.

Organizational Credibility

Most of the research on source credibility uses individuals as the source of the message. The literature contains only two studies using organizations as sources (Lynn, 1973; Lynn, Wyatt, Gaines, Pearce, & Bergh, 1978). The focus of both studies was the audience's perception of the Advertising Council, a "nonprofit organization supported financially by media, advertising agencies, advertiser associations, and donations from private firms" (Freimuth, 1985, p. 56).

Organizational credibility has been examined recently, but from a very broad perspective. McGuire (1985) cites a 1981 opinion poll that found "science, medical, and academic groups elicit a high degree of [trustedness], the military, police and judiciary somewhat less, followed by business and media leaders, with political officeholders and labor union officials trusted still less" (p. 263). These findings stimulate interest in organizational credibility, but empirical evidence is necessary to substantiate these general findings.

The dearth of research in organizational credibility and the untested assumption that source credibility is the same for individuals and organizations combine to argue for additional research in this area.

The following section describes the methodology used in this investigation of organizational credibility.

METHODOLOGY

Operational Definitions

Independent Variables

Two primary independent variables are manipulated in this investigation: status and medium.

Status. As reviewed in the literature, Hovland, Janis, and Kelley (1953) suggest that when a person is perceived as having "a definite intention to persuade others, the likelihood is increased that he will be perceived as having something to gain and, hence, as less worthy of trust" (p. 23). For the purposes of this investigation, the term "status" is used to denote perceived intention of the source and was manipulated in three ways: a profit-making source name, a nonprofit source name, and a combination source (utilizing both the profit and nonprofit organizational names).

In this investigation, perceived intent is defined as the perception that a source will make a profit from an individual adopting the advocated health behavior. This definition differentiates between organizations that make a direct profit from persuading consumers, through social advertising, to adopt an advocated health behavior from organizations that conduct social advertising solely for corporate public relations reasons. For example, the focus of the present investigation would include the advertising of a pharmaceutical firm which advocates that consumers take their medication daily regardless of whether they feel well or not. Conversely, excluded from the focus of this study would be advertisements of the tobacco association

advocating that children wait until they are adults to make the decision to smoke. In the first example, the pharmaceutical firm will realize a monetary gain if a consumer heeds the advice. In the second example, the tobacco association will not directly realize a monetary gain from the advertisement but may, however, stem the tide of adverse publicity about its pejorative image. The results of this investigation can only be generalized to the first type of social advertising.

Medium. To enhance generalizability of the results of the study and to control for any effect of an oral vs. visual message on the results, identical advertisements in all three media were prepared and manipulated in the study (print, radio, and television). All three versions of the advertisement were as identical as possible in length, wording, and visuals.

Dependent Variables

Three dependent variables are measured in this investigation.

Source Credibility. A magnitude estimation scale was used to measure source credibility. The adjectives used in the scale were derived from the McCroskey and Jenson (1975) semantic differential scale and modified as a result of a pilot test. The reliability coefficient of the source credibility scale was .94.

Responses to the magnitude estimation scales were not collapsed into categories of credibility, i.e., high, medium, or low. Source credibility was analyzed and discussed as a continuous variable.

Message acceptance. The second dependent variable measured is message acceptance. To maintain consistency between the two dependent variable measures, a magnitude estimation scale of

message acceptance also was used.

A review of research pertaining to messages revealed a variety of adjectives which were then incorporated into the scales used in the present study. Again, the scale and adjectives were modified as a result of a pilot test and a reliability coefficient of .95 was achieved from an analysis of subjects' responses to the scale.

The results of the message acceptance scales were analyzed as a continuous variable.

Behavioral intention. Two questions were included in the survey to elicit from the subjects any behavioral intentions as a result of the message. Previous research shows a correlation between behavioral intentions and behavior change (Ajzen & Fishbein, 1980). Therefore, information concerning behavioral intentions was collected to aid in determining the relationship between source credibility and the degree of message acceptance.

Ancillary Independent Variables

Two ancillary independent variables were included in this investigation.

Order. Each subject was asked to respond to a source credibility scale and a message acceptance scale. Both scales were included in each questionnaire along with pages of samples, instructions, etc. The order of the source and message scales was varied within the nine versions of the questionnaire packet. For example, half of those subjects who responded to the print advertisement from the profit source received questionnaires containing the source scale first followed by the message scale.

The remaining questionnaires contained the message scale first followed by the source scale. The manipulation was considered necessary to eliminate any effect that the order of the scales may have had on the dependent variables. Therefore, the null hypothesis was advanced:

H7: Order of the scales will not affect the subject's response to the scales.

Demographics. Although no relationships were expected between source credibility, message acceptance, and demographics, respondents were asked to respond to four demographic questions: sex, age, race, and education level. Demographic data were gathered mainly to describe the sample population.

Pilot Tests

Three pilot tests were conducted prior to the final data collection. The first pilot test determined the feasibility of using an existing semantic differential scale in a study of the credibility of organizations. The objective of the second pilot test was to identify fictitious organization names to be used in the health advertisements. Finally, the third pilot test evaluated the chosen measuring instrument.

The results of the pilot tests showed that the original semantic differential scale required extensive changes in order to be applicable to organizational sources as opposed to individual sources. Therefore, a magnitude estimation scale was prepared using only the applicable adjectives as determined by the first pilot test. Two fictitious names to be used in the manipulated advertisements were selected by the respondents in

the second pilot test. The "United Cancer Foundation" and "The Wellness Marketing Association" were chosen by over two-thirds of the respondents as having at least a .75 probability of being nonprofit and profit, respectively. The third pilot test was conducted to determine the reliability and validity of the magnitude estimation scales. Cronbach's alphas in excess of .90 were recorded from the pilot test for both the organization and message scales.

Experimental Design

The following illustration depicts the factorial design of this study.

R	X1	O1	O2
R	X2	O1	O2
R	X3	O1	O2
R	X4	O1	O2
R	X5	O1	O2
R	X6	O1	O2
R	X7	O1	O2
R	X8	O1	O2
R	X9	O1	O2

R represents the randomization of the subjects to the nine experimental groups. X1-9 represent the nine levels of treatment: X1 print profit, X2 print nonprofit, X3 print combination, X4 radio profit, X5 radio nonprofit, X6 radio combination, X7 television profit, X8 television nonprofit, X9 television combination. O1 represents the first observation of the treatment for each subject (either source scale or message scale); and O2 represents the second observation of the treatment

for each subject (either source scale or message scale).

Manipulation of the Advertisement

A fictitious advertisement was prepared as the treatment in this investigation. The central idea of the fictitious message was that nutrition researchers have shown that increased use of fiber in our diets may reduce the risks of some kinds of cancer. The health topic, nutrition, was chosen because of its applicability to all potential subjects (as opposed to breast cancer or high blood pressure). Also, the link between high fiber and reduced risk of cancer is rooted in recent scientific research, and cancer and nutrition is a highly visible health issue today. All of the above factors contributed to the mundane realism of the experimental situation.

Nine versions of the advertisement were prepared; one for each treatment (print profit, print nonprofit, print combination, radio profit, radio nonprofit, radio combination, television profit, television nonprofit, television combination). (See attachment for sample print advertisement.)

The 30-second television spot depicted a woman sitting at a breakfast table talking directly to the camera. At the end of the action, the name of the source was printed on the screen in white letters on black background. A voice-over also announced "This message brought to you by _____" while the name was displayed on the screen. The radio spot was produced directly from the voice track of the television spots.

Measuring Instrument

A magnitude estimation scale was used in this study to measure source credibility and message acceptance. Subjects were asked to "think of an organization whose advice on health matters, you would be inclined to believe most, but not necessarily all, of the time" (source scale). Subjects were then asked to assign 100 units to the organization they have in mind. This organization then became the numerical base from which all organizational comparisons were made. Subjects were instructed to write the name of this base organization in a space provided.

A similar numerical base was used in the message scale. Subjects were asked to "think of advertisement you have recently seen or heard whose message you found moderately believable." Again, subjects were instructed to assign 100 units to the message they had in mind and write a brief description of the advertisement in the space provided.

Eighteen versions of the questionnaire were prepared corresponding to the levels of the independent variables in the study. Three versions of the questionnaire were prepared for each type of media. Within each type of media, a version was prepared for each manipulation of the perceived intent of the source: profit, nonprofit, and combination. Nine versions of the questionnaire were prepared for the medium and status manipulations.

The remaining nine versions of the questionnaire were prepared in an attempt to control for order effects because of the inclusion of two separate scales in one questionnaire packet. Therefore, half of the total number of questionnaires were

prepared with organization scale first in the packet, and the other half of the questionnaires contained the message scale first. These manipulations resulted in eighteen versions of the questionnaire.

An attempt also was made to determine a subject's intention to change behavior as a result of the acceptance of the message. An assertion was made that the respondents' perception of source and message credibility would influence in some way their intention to change behavior in the direction of the advocated health behavior. Therefore, two questions were included at the end of the questionnaire to test the logical relationship between credibility and behavioral intentions. For example, if subjects found a source highly credible, were they then likely to attempt to change their eating behavior as a result of the message?

The final page of the questionnaire was devoted to gathering demographic data from the subjects.

Description of Subjects

Two hundred and sixty four participants were shown versions of the advertisement and answered the questionnaire. Substantial effort was made to use non-college students in this study. While certainly some of the respondents were currently enrolled in college courses, only 19 of the 264 respondents (7%) were solicited for the study through an in-session college course. The ability to use non-college students for this study was made possible through funds provided by the National Cancer Institute.

Volunteers were solicited through offerings of donations to nonprofit organizations, i.e., churches, senior citizens groups,

etc. Therefore, the experimental population was not exactly representative of the U.S. population because of the virtual self-selection of the subjects. The experimental population had a higher percentage of females and whites than the population of the U.S. Also, the experimental population was somewhat older than the U.S. population possibly due to the number of religious organizations that participated in the survey. Finally, the experimental population had attained a somewhat higher level of education than the U.S. population (U.S. Bureau of the Census, 1983).

Procedure

Each audience was initially given an introductory explanation of the research including a hypothetical example to familiarize the subjects with the magnitude estimation scale. This same example was given on the first page of the survey for a second perusal by the subject.

After the introduction, subjects were randomly assigned to one of the nine treatment groups. An explanation of the procedure was given, and subjects were requested not to discuss the survey or the advertisement with anyone else while the experiment was being conducted.

Each treatment group was taken separately into a private room and shown or played the 30-second advertisement. (The print version was given to participants to view for 30 seconds.) As a group, the subjects then returned to their original seats to respond to the questionnaire. The procedure continued until all nine groups had been exposed to the treatment and had completed

the questionnaire.

Statistical Analysis

The number of variables (both permanent and temporary) required that the statistical analysis be conducted in five phases.

The first phase of analysis was a 2 x 3 x 3 analysis of variance consisting of two levels of the ancillary independent variable order (source, message; message, source), three levels of the independent variable status (profit, nonprofit, combination), and three levels of the independent variable medium (print, radio, and television) resulting in an 18-cell design.

Because the raw data did not meet the assumption of homogeneity, the statistical package, SHAZAM (White, 1980) was used to find the optimal transformation of the data to fulfill the requirement of normal distribution. Unfortunately, the optimal transformation for the source scale could not be achieved. An appropriate transformation was found, however, and the resulting transformed data were used in the analysis of variance and t-tests. The Statistical Package for the Social Sciences (SPSS) (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975) was used to conduct the ANOVA and t-tests.

Since the first phase of analysis showed no main or interaction effect of order on the source credibility data (H7), this ancillary independent variable was eliminated from subsequent statistical analysis of source credibility.

During the second phase of data analysis, t-tests were conducted on all possible pairs of sample means for status and

medium on both source credibility and message acceptance data. Hypotheses were advanced about the relationships of these comparisons (H1, H2, H3, and H6).

The third phase of analysis involved computing a correlation of the two dependent variables, source credibility and message acceptance, to determine if any relationship existed between a respondent's perception of the credibility of a source and his/her acceptance of the message (H4).

During the fourth phase of analysis, the effect of source credibility and message acceptance on behavioral intention was analyzed (H5). A correlation coefficient of the dependent variables, source credibility and message acceptance, was performed individually on each measure of the dependent variable, behavioral intention.

RESULTS

Seven hypotheses were tested in this investigation of source credibility of health organizations. A significance level of .05 was set for the ANOVA and two-tailed *t*-tests.

Of the three hypotheses that specifically dealt with source credibility of profit, nonprofit, and combination sources, two were supported and one rejected in favor of the null hypothesis. The findings of the source credibility hypotheses show that a nonprofit source and a combination of profit and nonprofit sources are perceived as significantly more credible than a profit source of health messages. The *t* value for the difference between the nonprofit source and the profit source was significant at the .05 level, as was the difference between the

combination source and the profit source. No significant difference was found between the nonprofit source and the combination source (see Table 1).

The null research hypothesis concerning the correlation of source credibility and message acceptance was supported, suggesting that some of the subjects were able to dissociate the source of the message from the message itself. The correlation coefficient for this relationship was -.03 and the significance was .32.

It was also hypothesized that a positive perception of source credibility would produce a positive intention to change behavior. This hypothesis relating source credibility with behavior change was also supported. The correlation coefficient for the relationship between source credibility and the two questions relating to intention to change behavior were .25 and .26. According to Arkin and Colton (1963), these correlations must be $\geq$.125 to be significant.

The null hypotheses predicting the effect of medium and order on the dependent variables were rejected in some tests and supported in others. Medium was found to have a significant effect on source credibility; specifically, the print advertisements were perceived as more credible than the radio advertisements (t value = 2.56; significance = .011; see Table 2). Order was found to have a significant effect on the message acceptance data, but not on source credibility. The F value for main effects of order on source credibility was 2.00 with a significance of .158. The F value for main effects of order on

message acceptance was 6.63 with a significance of .011 (see table 3).

DISCUSSION

Most of the results from this study are consistent with previous research on source credibility of individuals. However, the results suggest practical applications for organizations that advertise about health issues.

Basically, the results show that a nonprofit source (such as NCI) is perceived as having higher credibility than a profit source (such as Kellogg Company). However, when the two organizations combine to produce one advertisement, the combination is perceived as having almost the same credibility as a nonprofit source alone. In applying these results to NCI's concerns, one finds that Kellogg may have raised its credibility considerably by advertising with NCI. Further, NCI probably did not affect its credibility at all by advertising with Kellogg. In fact, NCI most likely saved a great deal of money and gained a great deal of exposure through the advertisements, which Kellogg funded in total.

Since no correlation was found between source credibility and message acceptance, it might be construed that who produces the advertisements is inconsequential to message acceptance. On the surface, this interpretation is accurate. However, where source credibility does have its effect is on behavioral intentions. To return to the NCI situation, the combination of sources (NCI and Kellogg) or the nonprofit source alone (NCI) is more effective in producing an intention on the part of the

subject to change his/her behavior than the profit source alone (Kellogg).

The results of this study also suggest that the print medium is a more credible medium than the broadcast media for disseminating health information. This finding is especially important to nonprofit organizations, which frequently rely on public service announcements (PSAs) for their information dissemination. Nonprofit organizations may have more control over the placement of their print PSAs than their radio or television PSAs. Similarly, the availability of strategically targeted print outlets may assist the nonprofit organization in reaching its intended audience, i.e., those at high risk for a health problem.

Even though the order of the scales within the questionnaire packet had no effect on source credibility, order of the scales did affect message acceptance. Many of those subjects who responded to the source credibility scale first subsequently indicated a low acceptance of the message. This finding, while not specifically addressed by this study, may have practical applications for communication researchers in planning future surveys, and possibly for advertisers in choosing how to best design their advertisements for maximum effectiveness. For instance, a profit organization may want to consider placing its organization name at the bottom of a print advertisement or at the end of a radio or television spot, giving the viewer an opportunity to respond to the message characteristics first prior to considering the source of the advertisement.

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Table 1

Results of t-Tests: Source Credibility[a] by Status

Test	Mean (x)	Difference (x1 - x2)	df	t[b]	Significance
Profit	18.96	-1.36	153	-3.18	.002[c]
Nonprofit	20.32				
Profit	18.96	-1.05	162	-3.18	.002[c]
Combination	20.01				
Nonprofit	20.32	.31	136	.76	.448
Combination	20.01				

[a] Transformed Data

[b] Separate variance estimate

[c] Significant at the .05 level

Table 2

Results of *t*-Tests: Source Credibility[a] by Medium

Test	Mean (x)	Difference (x1 - x2)	df	t[b]	Significance
Print	20.34	1.06	166	2.56	.011[c]
Radio	19.28				
Print	20.34	.71	157	1.85	.067
Television	19.63				
Radio	19.28	-.35	160	-.94	.347
Television	19.63				

[a] Transformed Data

[b] Separate variance estimate

[c] Significant at the .05 level

Table 3

Three-Way ANOVA: Medium by Status by Order

Message Acceptance[a]

Source of Variation	Sum of Squares	df	Mean Square	F Ratio	Significance of F
Medium	3.33	2	1.66	1.36	.260
Status	4.26	2	2.13	1.74	.178
Order	8.13	1	8.13	6.63	.011[b]
Medium x Status	14.36	4	3.59	2.93	.022[b]
Medium x Order	2.45	2	1.23	1.00	.370
Status x Order	2.75	2	1.38	1.12	.327
Medium x Status x Order	7.64	4	1.91	1.56	.187
Error	292.07	238	1.23		
Total	334.99	255			

[a] Transformed data (lambda=.2)

[b] Significant at the .05 level

I don't know what to believe any more, but I do know that I can believe nutrition researchers when they say I should have more fiber in my diet.

That's why I eat whole grain breads and cereals and more fresh fruits and vegetables.

They say eating foods rich in fiber may reduce the risk of some kinds of cancer.

So, am I going to change my diet?

You better believe I am!

United Cancer Foundation and the Wellness Marketing Association